

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Dana Alexa Totir et al.	Art Unit	: 1745
Serial No.	: 10/800,905	Examiner	: Raymond Alejandro
Filed	: March 15, 2004	Conf. No.	: 1479
Title	: NON-AQUEOUS ELECTROCHEMICAL CELLS		

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SECOND DECLARATION OF DANA ALEXA TOTIR, KIRAKODU S.
NANJUNDASWAMY AND MICHAEL POZIN UNDER 37 C.F.R. § 1.131

1. We are the inventors of the inventions claimed in the above-captioned patent application. The following work was conducted in the United States.

2. Two laboratory notebook pages from a laboratory notebook of Dana Alex Totir are attached. The notebook pages are signed by Ms. Totir and are dated prior to September 12, 2003. The two pages are true and complete copies from the original notebook, except that the dates on the laboratory notebook pages have been whited out and information is highlighted as described below.

3. The laboratory notebook pages demonstrate that electrochemical cells covered by claims 1-5, 8-12, 14-24, 28, 31-35, 39-43, and 45-46 were made and used prior to September 12, 2003.

(a) Some of the information on the notebook pages is highlighted for convenience. See in particular the highlighted information next to "Cell #1" on page 2489-110 and "Cell #2" on page 2489-111. The electrochemical cells were coin cell models that included a plastic housing, a cathode including " β -EMD" (β -electrolytic manganese dioxide) on a "primed Al" (aluminum) current collector. The aluminum current collector in turn was pressed on an "SS grid". SS is stainless steel, and the aluminum current collector thus was in contact with a second metal surface (the stainless steel) different from the surface of the aluminum current collector. The cells included a "Li" (lithium) anode and an electrolyte including "0.05 M" (page 2489-110) or "0.03 M" (page 2489-111) LiBOB." LiBOB is lithium bis(oxalato)borate. Thus, the electrochemical cells described on laboratory notebook pages 2489-110 and 2489-111 include all of the requirements of claims 1-2, 5, 8-12, 31-35, and 45-46.

(b) Laboratory notebook pages 2489-110 and 2489-111 refer to "LiBOB in TDE10" in the highlighted information next to "Cell #1" and "Cell #2". TDE10 is an internal name for an electrolyte that includes, among other ingredients, lithium trifluoromethanesulfonate. Thus, electrochemical cells on laboratory notebook pages 2489-110 and 2489-111 also include all of the requirements of claims 3 and 4.

(c) The aluminum cathode current collector used in the electrochemical cells on laboratory notebook pages 2489-110 and 2489-111 had a size of at least one dimension greater than 2 millimeters. Thus, the electrochemical cells on laboratory notebook pages 2489-110 and 2489-111 include all of the requirements of claims 14-16.

(d) The electrochemical cells on laboratory notebook pages 2489-110 and 2489-111 were designed to be discharged once and then discarded, and thus are primary electrochemical cells as opposed to secondary (rechargeable) electrochemical cells. Thus, the electrochemical cells on laboratory notebook pages 2489-110 and 2489-111 meet all of the requirements of claims 17-24, 28, and 39-43.

4. We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that those statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Attorney's Docket No.: 08935-270001 / M-4996/Z-
03622

ATW

Dana Alexa Totir

11/15/07

Date

[Signature]

Kirakodu S. Nanjundaswamy

November. 14. 2007

Date

[Signature]

Michael Pozin

Nov. 14, 2007

Date

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Subject Matter

It corrosion can all the time is constant (reads very on a large range)

Just test in 100% of cells.

Tests:

- At lead electrodes present in 35 gal in 100 contact
- Not too small
- Corrosion of 43A can and of H alloys @ 3.8V (a 3.7)

Thyssen measure with the pseudo-reference electrode

3 electrodes all in the same working electrode, Li counter and reference electrode

measure out of the electrode in Li reference in 1000

out of (100) in 1000 in 1000 in 1000

cell of the (100), Li(100), Li(100) in 1000 (100/100)

of (100), Li(100), Li(100) in 1000 (100/100)

to compare the peak potential in Li(100) and Li(100) to find out the potential difference.

Notes

from under a normal H₂ to control 100% 732
 present a 35 gal in 1000 in 1000 (100)
 3500 gal, 0.05 H₂ in 1000 (100)
 1000 gal, 1000 gal and
 1000 gal (33 mV)

Observations

- At 2110 a.1. or - Au(100), Li(100), Li(100), 1 mV far from in 1000, CV between 2.7-3.7 V @ 10 mV/sec
- At 2100 a.2. cor - Ag(100), Au(100), Li(100), 1 mV far from in 1000 - 700 mV circuit experiment to monitor the potential vs. Li
- At 2110 a.3. cor - Au(100), Li(100), Ag(100) - 1 mV far from in 1000 - 1000 mV circuit experiment to monitor the potential vs. Li
- At 2110 a.4. cor - Au(100), Li(100), Ag(100) - 1 mV far from in 1000 - 1000 mV circuit experiment to monitor the potential vs. Li
- At 2110 a.5. cor - Same as above CV 1000 - 1000 mV circuit experiment to monitor the potential vs. Li

Witnessed & Understood by me,

Monahan

Date

Date

Recorded by

ATW

Date

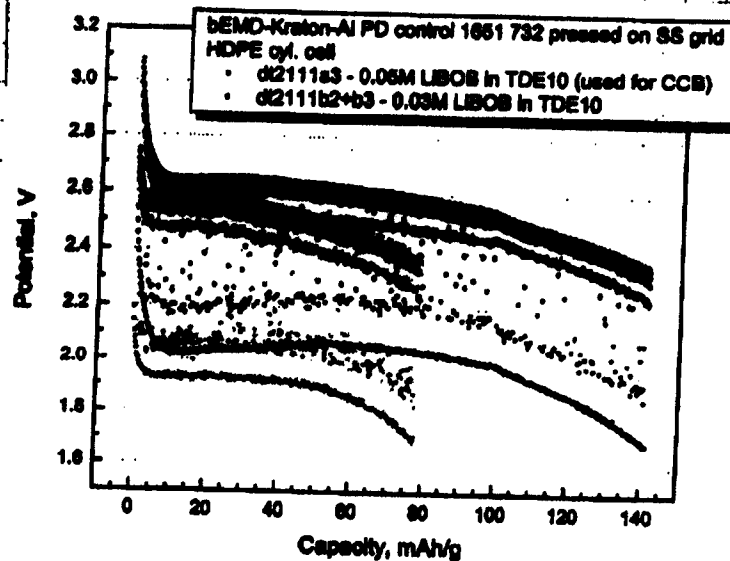
Subject Matter

- dt 2111 a1. cr - Cell #1 described in pag 10 - stopped after 170 pulses
HOC at 33 mA
- dt 2111 a2. cr - OCV for 2h (Cell #1)
- dt 2111 a3. cr - Cell #1, HOC at 33 mA, 600 pulses

Cell #2:

β -DMA Kraton-AI pressed H. PD control 1651 732
pressed in SS grid H. 9-10 cells 1000
d. 0.03M LIBOS in TDE10 (used for CCB)
1x2 G, HOC 33 mA.

- dt 2111 b1. cr - open circuit, 2h
- dt 2111 b2. cr - HOC at 33 mA, 500 pulses
- dt 2111 b3. cr - HOC at 33 mA, additional 1000 pulses
(collected next day)



Witnessed & Understood by me,

Mark

Date

Date

Recorded by

APM

Date